

REMARKS

This paper is responsive to the Office Action of March 6, 2008, in which claims 1, 4, 6-18, 20, 23, 25-38, 41, 43-58 and 80-85 are currently pending. All of the pending claims stand rejected. By this response, claims 9-13, 28-32, 46-50, 56-58 & 80-85 are cancelled. Claims 1, 14-16, 20, 23, 25, 33-35, 38, 41, 51, 52 and 53 are amended. Claims 1, 4, 6-8, 14-18, 20, 23, 25-27, 33-38, 41, 43-45 & 51-55 remain pending in the application.

At paragraph 3 of the Office Action, the Examiner rejects claims 38, 41 and 43-58 under 35 U.S.C. §101 as non-statutory. The Applicant amends claim 38 as the Examiner suggests. Accordingly, those rejections should be withdrawn.

At paragraph 5 of the Office Action, the Examiner rejects claims 9-18, 28-37, 46-58, 80-82, 84 and 85 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 9, 14, 28, 33, 46 & 51 have been either cancelled or amended to revise the limitation “the plurality of possible types”. Claims 16, 35 & 53 have been amended to refer to “the target architecture specialized conversion function”. Claims 57, 81 & 85 have been cancelled. Accordingly, those rejections should be withdrawn.

At paragraph 7 of the Office Action, the Examiner rejects claims 1, 4, 7, 8, 14, 20, 23, 26, 27, 33, 38, 41, 44, 45 and 51 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,609,248 (Srivastava). The Applicant amends claims 1, 14, 20, 23, 33, 38, 41 and 51 to overcome these rejections as explained below. Independent claims 1, 20 and 38 have been amended to recite dynamic binary conversion based, for example, on original claim 83 and paragraph [0033] of the description. Further, clarifying amendments have been made to the dependent claims 14-16, 33, 34, 51 & 52. These rejections should be withdrawn in light of the amendments and the comments below.

At paragraph 9 of the Office Action, the Examiner rejects claims 6, 25 and 43 under 35 U.S.C. §103(a) as being unpatentable over Srivastava. In light of the above-described amendments, and the comments below, these rejections should be withdrawn.

Srivastava

Srivastava discloses a method and system which relies for input on a heterogeneous program containing program code components in different forms (see column 1, lines 35-50). For example, in the Microsoft Windows 32-bit environment, a Visual Basic program is compiled into VB byte codes that can call native-compiled functions in a separate dynamic linked library. Similarly, Java class files can call native functions. As another example, Intel's IA-64 architecture allows IA-64 code to co-exist with X86 code within a single heterogeneous program.

Srivastava deals with this heterogeneous program 201 by providing an input translator 210 which generates an intermediate representation 220 that is transformed by an transformation module 230. Then, the intermediate representation 220 is translated by an output translator 240 into an output modified executable 203 (see Figure 2A and column 6, line 40 onwards). As made clear in the "System Level Overview" at column 6, line 65 through to column 9, line 41 and referring also to Figures 2B-2D, Srivastava teaches that the input translator 210 relies upon a program database 202 that is created by parsing the complete heterogeneous program 201 (column 6, lines 57-58). Thus, the preparation of the program database file 202 is an essential feature of the system and method of Srivastava.

Further, Srivastava teaches that an application programming interface (API) 250 is provided so that a user is allowed to manipulate the intermediate representation 220 through the IR transformation module 230 (see column 7, lines 59-62). This API 250 permits the user direct access to the IR 220 to navigate through the IR and make changes to the IR.

As correctly noted at paragraph 12 in the Office Action, Srivastava clearly does not teach that program code is dynamically converted into target code interleaved with execution of the target code on the target computer system (i.e., dynamic binary translation) as recited in the new

independent claims 1, 20 & 38. Here, the Examiner draws attention to Fujii (US 2004/015888) which discusses a processor system having a dynamic translation facility.

Contrary to these suggestions in the Office Action, the Applicant respectfully submits that it is not possible for the ordinary skilled person to combine the static translation of heterogeneous programs as in Srivastava, with a processor system for dynamic binary translation as in Fujii, for at least the following reasons.

Firstly, the system and method of Srivastava relies upon the program database 202, which is only available in the context of static translation.

Secondly, Srivastava relies upon user review and transformation of intermediate representation 220 through the user API 250, which is clearly incompatible with the real time dynamic translation described in Fujii.

Thirdly, Fujii teaches independently and in parallel, either interpreting instructions one by one, or else translating previous encountered instructions to provide translated and optimized binary code using the translator/optimizer 403. Notably, neither the interpreter 402 nor the translator/optimizer 403 of Fujii use any kind of intermediate representation.

In summary, it is not a simple or straightforward modification to combine the static user-oriented translation of a heterogeneous program as in Srivastava with a dynamic binary translation system as in Fujii. Instead, these are two very different and mutually contradictory approaches.


By contrast, the Applicants have instead developed a new system and method for dynamic binary translation which is not disclosed in any of the prior art documents and further cannot be derived by the ordinary skilled person from these documents, not least because of the inherent incompatibilities between Srivastava and Fujii as discussed above.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-0219, under Order No. 1801270.00134US1 from which the undersigned is authorized to draw.

Respectfully submitted,

Dated: May 28, 2008

A handwritten signature in black ink, appearing to read 'Ronald R. Demsher', is written over a horizontal line.

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